3f2
[23]

/371 cont./

Spanish/. Anyone who abandons his hut relinquishes the framework and, consciously or unconsciously, places it at the disposal of anyone who wishes to use it later.

mentioned here in all kinds of variations (7).

7. Hyades (4) :342 calls them "a kind of arbor of foliage" /translated from French/. Despard (5) :680 also mentions them.

2. The Two Types of Huts

In the extensive Yamana territory, from the Brecknock Peninsula to Nueva Island and down to Cape Horn, two types of huts for dwellings have developed, namely, the cone-shaped and the dome-shaped. For the time being we shall leave it an open question as to which of the two is ethnologically older here in Tierra del Fuego.

For this question a not unimportant fact is that each of the two types has its definitely limited geographical distribution: in the damp, heavily timbered west the dome-shaped hut is indigenous, in the drier, open east, the cone-shaped one. For both types environmental factors have been at least contributory, perhaps even decisive.

3f2 133 137

The Indians gave me reasons which alone may suffice to explain the origin of both types. In the west humidity and dampness greatly predominate. The surface of the ground is much more irregular, and almost everywhere at sea level level ground with gravel or broken stones is absent. The northerly slopes of the rocks not only get the vital force of the sun, but are protected against storm and inclement weather. Thus, a thicker and more compact growth of trees develops here, and even in the smallest crevices the firm roots of the Antarctic beeches find sufficient anchorage. In the west there are few big trees, but there is a preponderance of thin, irregular, flexible trunks that shoot up quickly. They grow close to every shore /371/ and can be uprooted easily because their roots do not penetrate the rocky ground.

3f2

In low places the wind can not exert its full force, except in a few spots, and therefore the dome-shaped hut may be used. It has

/371 cont./

many advantages over the cone-shaped one. The former is more tightly constructed, hence the warmth inside is evenly distributed up to the walls, and the moist air is dried. The good cover all around prevents the annoying penetration of rain and snow. The low incoming wind here in the west is kept out by the covered side walk, thus permitting the fire to glow undisturbed and the smoke to be drawn off in a straight line overhead. The Indians know how to appreciate all these advantages of the dome-shaped hut, which to a foreigner appear negligible. The flexible, long, thin, somewhat irregular and bent trunks of the beech are very suitable for the framework of this type of hut. The cone-shaped hut requires straight, uniform trunks which in the west are seldom found in the required numbers in one spot. Thus, it is the environment that favors the construction of the dome-shaped hut.

In the east, on the other hand, there are far fewer protected spots on the edge of the water. Along the north shore of Beagle Channel eastward from Ushuaia, the coast, except for isolated exception, lies exposed to every wind and storm from the south and southwest. This is even more true of the long south coast of Navarino Island and of the three islands in the eastern outlet of Beagle Channel. If the Indians were to erect the closed dome-shaped hut on the open, broad surface of the gently sloping shore, they would have to be prepared to have their handiwork blown down by a strong gust of wind. With a cone-shaped hut one need fear this fate only in the most severe storm and tornadoes. The loosely set rows of slender trunks permit the wind to pass through and do not by any means offer the broad striking surface of the dome-shaped hut. In the east the young beech trunks show uniform growth. The flat ground provides the conditions for this; they shoot up more slowly and at the same time develop breadth. They stand about within easy access. They are excellently adapted for the cone-shaped hut because the heaviness of the small trunk alone contributes to the solidity of the entire structure. Since the smoke is constantly at the mercy of the wind and gusts which stir the air even inside the hut, there must always be a convenient escape for it; the cone-shaped hut affords this much better than the other type. When there are many days free of rain, which in the west are less frequent than here in the east, a woman pulls the pieces of bushes off the frame with a single movement of her hand, and the interior quickly dries in the convenient cone-ventilation. Adaptation to the conditions

/377 cont./

377 water is obtained and to the canoe which has been drawn up on the beach where it remains until the journey is resumed.

/378/ β. The Dome-shaped Hut

382 In the western and southwestern part of Tasmania territory, including the Wallaroon group, only the dome-shaped hut, *ndoora, ndoorakah*, was known. In contrast to the cone-shaped hut, it shows adaptation to the nature of the region.

A somewhat flattened hemispherical form predominates. For a larger number of occupants it is stretched lengthwise, so that the groundplan is a drawn-out oval. The poles used for the framework determine this form of the hut. The slender and flexible, thin, long trunks of young beeches are chosen. It is well known that these trees do not grow well in the shade of the forest and shoot up quickly, developing a short root system that lies entirely on the surface. They can be pulled up without effort, and with only the slightest exertion the sparse tangled roots and the watery covers of leaves can be broken off. The result is an almost smooth pole that is as flexible as a twig and that hardly varies in thickness along its entire length.

• [33] The framework made from such poles, if it is to have the desired stability, necessarily is a kind of basketwork. First a few larger poles are driven into the ground at wide intervals on the line indicating the groundplan. These include the two poles that are to flank the entrance. The natives try to achieve the dome shape from the beginning by bending and interweaving the poles, without regard to the direction or position of the poles relative to each other or to the points where they will later be fastened together. This initial framework is gradually filled out and reinforced with additional, supplementary poles that are inserted between the first ones. Most of them are so long that they reach far beyond the height of the dome down to the opposite side (34). This gives the framework as a

34. According to an often repeated, but incorrect account, the individual poles are said to meet at the top. Dyeden (q) .940 also speaks inaccurately of "branches stuck in the ground and resting

/[illegible] /
together on the top" /translated from French/.

whole on advantageous elastic version. In the places where he individual poles cross, they are held together by a single loop made with the fibers of interlaggapaniuum rushes and young shoots of Sidalcalcea or Malvastrum. These are sufficiently tough, and they are as flexible as thick packing cord. This framework might be compared with a coarsely and serially plaited basket.

On the outside, about halfway up the framework, lumps of earth, balls of moss, and pieces of turf are built up all around, like masonry, and this keeps out the wind. Rather large, leafy twigs are placed on the upper half and subsequently fastened by being pulled under and lapped over. Thick bunches of grass are also spread out all the way around, and lumps of earth are placed over them internals to make a firm layer. Her /[illegible]/ uncommonly large pieces of leather are stretched over all of this and tied securely at thedges. Their weight strengthens the loose cohesion of the structure [5].

[5]. The leather covering stretched over the framework is not a single piece. It would be, as Lothrop [By 138 edition, "a heavy and cumbersome object to handle" /Acheel in English/. Large, individual skins prove to be more manageable. They are placed side by side in such a way that their edges overlap. One can not compare these with the large hut covering used by the Seth Nam (1938, I, 180), which is a single piece made of many individual guarantskins, thoroughly wrought on both sides. They are, to begin with, considerably lighter and correspondingly more flexible than the thick, heavy cow skins.

Outline fashioned ten pieces of leather are placed on the pak; hatera, the smoke of the hut fire has a free outlet. As the rain does, there is no danger of the hut itself catching fire.

With this type of design, the groundplan can be extended to any length if two to four families build a common dwelling or

/381 cont./

354 Since the interior does not offer reliable protection, the occupants are constantly moving in and out, but in the end they must yield to all misfortune and be content with the little warmth given off by the fire.

513 They arrange their sleeping places directly on the ground and all around the inside wall. First they spread out twigs, with or without leaves, and flat pieces of bark. Over this they place finer twigs or a great deal of lichen (Usnea barbata) and, finally, a long piece of guanaco hide or seal skin. The latter is sometimes omitted. Formerly they also preferred to use bundles of the • [137] long stalks of Poa flabellata, but more recently this type of grass has become very rare here (32). A person lying down to sleep

32. Fred Lawrence called my attention to the fact that Poa flabellata, the so-called tussock grass, formerly flourished abundantly throughout the entire area, but since the introduction of sheep this type of grass is now found only in very remote places. After searching for a long time he brought me some plants which could be identified as this species.

curls up tightly and covers himself with his short back cape or somewhat larger coat. Sometimes they even use a type of bed-cover made of several skins pieced together, and this is drawn over several children or two or three adults at once. During sleep they move as close as possible to one another, to give each other the benefit of their body warmth. That is why a single medium-sized skin suffices to cover two to four persons. Not every family by any means owns such a cover (33). The fire itself throws out

33. Hyades (I) also corroborates: "In order to protect themselves from the cold at night, they use a skin of the sea lion or several otter skins sewed together, which they spread over the upper part of the body, leaving the lower limbs outside. They are huddled together so closely that a single skin

/386 cont./

372 (Vol. I, 386). They choose a straight stick, as thick as one's
442 thumb, of Berberis tinctoria, strip it of leaves, twigs, and cracked
parts of bark, smooth the surface, and split it two-thirds of its
entire length which is hardly more than 65 centimeters. After-
wards the lower, split end is cut off flat. Since the tension of the
wood fibers keeps the two ends spread slightly apart, these five
rings can be easily manipulated simply with pressure (58).

[177]

58. Hyades (q) 384 and Lothrop (b) 138 have also described this implement briefly. The similarity in terminology between the Selk'nam and Yamana causes Lothrop to speak of a "cultural borrowing," which should not be dismissed.

• 137 The natives have the advantage, which they truly appreci-
213 ate, of some growth of trees throughout their homeland, even on the dreaded Cape Horn. It is lacking only on the low rocks and smooth stones that /387/ are exposed to waves and storms without any kind of protection. Wherever shallow crevices or protected ravines cut into the rocks, frail shrubs and thicker small trees cling, successfully resisting storms. The Indian finds his needed
313 fuel at every landing place, so to speak, although at some places he obtains it more easily. He prefers dry beechwood for his fire, for he dreads the damaging smoke of green logs (59). He finds it

59. Persistent watering of the eyes and slight inflammation of the eyelids are the consequences of the stinging smoke. See Hyades (q) 348 and Lothrop (b) 128, as well as footnote 56.

as driftwood that has been washed ashore by the waves. He also goes a few steps into the woods and breaks off dry branches with his hands. If they are higher up, he tosses the cones of his bare arsenal there, rage vigorously, for beechwood is very tough, and pulls them down. He falls below one trunks with the weight of his body and then splits them. As soon as a family lands, the
[83] children disperse throughout the neighborhood and gather wood which they bring to the campsite.

*07
D4

/601/

Fig. 37. Berberis cretica. Hausskn. fec.

/976 cont./

grow perfectly straight and have the great advantage of being heavy. They do not flourish on Beagle Channel, however, except in one or two places in the west (178), and for most of the Yamana they are

178. On my fourth expedition I had definite proof of specimens of Libocedrus tetragona in Puerto Edwards on the southern shore of Brecknock Peninsula. This is the southern boundary for this species. Skottsberg (g) 28 reports that it extends somewhat farther south, namely, to Isla Chair in Darwin Sound.

simply inaccessible. Hence one sees all of them carrying merely a shaft made from the evergreen beech, N. betuloides, which is uniformly octagonal. Furthermore, one can /477/ observe on the average cross-section a rectangle of about 25 millimeters in width and 20 millimeters in height with the four /Fig. 25 appears here/ corners removed, producing the octagonal form. Shafts with six uniform sides are not as common as those mentioned above.

The narrow slit at the upper end of this large harpoon is, of course, also meant for a bone point which is jammed into it; a narrow leather strip is

Fig. 25. The Large Harpoon.

/556 cont./

222 The ripe berries of Berberis buxifolia, hámărⁱ amíjn, taste good and are much sweeter than the berries of Berberis ilicifolia, ʃ́ámjn. The former are easy to strip from the small twigs by hand and gather into a basket. An Indian woman would not bring home large quantities of these berries because a handful of them is all that anyone wants, but anyone who happens to pass these bushes strips off several berries and eats them immediately.

The small Rubus geoides, one of the Rosaceae, creeps along the ground in light patches of the forest and on the edge of it. Its fruit, pflasʃ́ʷíɛ, which ripens in late summer, resembles a raspberry in size, shape, and color, but is less sweet. Women pick these also, but only when they are gathering ʃ́ípisamʃ́jn and

[37]

Fig. 67. Perrettya pumila. Natural size.

amʃ́ʷɛgwⁱ and inevitably come across isolated fruits of Rubus geoides. Our Indians do not have a taste for the fruits of Myrtus nummularia, but they like to pick the easily obtainable hípulamʃ́jn, the clusters of the hípuⁱ bush (Ribes magellanicum), which likes the light and grows chiefly on the edge of the forest.

/557/ This concludes the list of the berries that are considered at all edible in the region of the Yamana. The fruits of Gunnera magellanica, for example, have almost no meat, and therefore no one touches these tʃ́alamʃ́jn. This is also true of the small fruits of other species.

262 3. Other Plants. Other products of the vegetable kingdom can be regarded as actual food to an even lesser extent than is true of fungi and berries (303), but there are a very few plants, as

303. Bridges' (k):227 way of expressing himself is therefore misleading: "The

/701 cont./
843 activity, especially to those young women who are expecting their first child. Sexual intercourse is discontinued for two or three months before the confinement.

843 During this time the married couple are required to observe a
262 few food taboos. The /702/ woman may not eat roasted pieces of meat, mussels, or fish as hot as usual, but must let them cool off a bit. It is said that food that is too hot is now detrimental to her and her child. The man is not permitted to eat the head and hind portion of fish and birds; he must be content with the center piece. Shortly before the confinement neither of the two parents may eat the meat of cormorants, otherwise the child would be born deformed.

[824
•137]

Fig. 78. Embothrium coccineum. One-half natural size.

/Fig. 78 appears here./ For a few days before and after confinement the woman herself may not break or crush the bones of birds. It is well known that in the case of some birds, especially cormorants, the longer bones are broken open before they are roasted in the fire, so that the marrow will penetrate the meat and make it juicier. Furthermore, their spinal columns are cracked at various places so that the feathers can be plucked more easily. Now if the woman

/772 cont./

857 lack this thoroughly wholesome, unspoiled characteristic. Since they stay within the limits of fun, the adults do not stop them. Thus, in winter, they throw a snowball at a passing girl from some hiding place and enjoy the greatest satisfaction over not being discovered. On another occasion they will hurl a stone from the sling to the ground or into the water beside an unsuspecting girl, only to frighten her. If several girls are sitting together, some boys will stealthily strip off a handful of small Cyttaria harioti fungi and from their hiding place toss them against the heads of the girls until the latter leave the vicinity of their tormenters.

Another time bolder rascals will provide themselves with a quantity of the short, thumb-length thallus buds of pḗri, a small brown alga (Adenocystis utricularis). These plants are found in masses on the stones of the shore and are filled with water (Fig. 80). They can be easily removed from the thallus by pressure with the thumb nail; at this point the plant structure is less resistant. As though each thallus bud were an elongated bubble, it is grasped between thumb and forefinger and pressed gently, whereupon the water filling it shoots out in a fine, far-reaching spray, as though from a small squirt. This is the way the fellows tease the girls whose affection they would like to win, while they squirt particularly heavily the girls they want to annoy. Of course the boys also squirt each other with the pḗri.

[37]

Fig. 80. Brown Alga, Adenocystis utricularis. Two-thirds natural size.

/773/ With these and similar harmless pranks the two sexes become sufficiently well acquainted; it would be a disadvantage for their spiritual development if they were always kept absolutely isolated from one another. Whenever the children of different families chance to meet, they immediately begin their social

1: Gusinde--1457 E-S (1918-1924) 1937 SH6 Yahgan SH6

•137

Antarctic Beeches

Mourning Painting

Men Painting Themselves

Mourning Painting

133

Northeast of Beagle Channel

2: Cooper E-4 (no date) 1946 Sh6 Yahgan Sh6

THE YAHGAN

By John M. Cooper

INTRODUCTION

133 **Natural environment.**—The *Yahgan* habitat is archipelagic, the mountainous islands constituting the last outposts of the Andean chain before it dips beneath the sea at Cape Horn (map 1, *No. 1A;* 132 map 2).[1] Atmospheric temperatures at sea level differ somewhat from locality to locality, with a summer mean around 50° F., a winter mean close to the freezing point, and a winter minimum around 10° F. Snowfalls not infrequently occur even in the summer months (pl. 38). Relatively very cold or very warm spells are usually of short duration. Sudden changes in temperature, in wind velocity, and in sunshine, cloudiness, and precipitation are characteristic. Violent squalls and strong gales are common.

139 The islands up to about 1,000 feet altitude are heavily wooded, chiefly with beeches (*Nothofagus betuloides* and *N. pumilio*, evergreens; *N. antarctica*, deciduous), together with Winter's bark (*Drimys winteri*), "cypress" (*Libocedrus tetragona*), and lola dura (*Maytenus magellanica*). The forest floor is thickly covered with rotting and rotten fallen trunks, which with the thick spiny masses of barberry bushes (*Berberis ilicifolia* and *B. buxifolia*) and holly (*Pernettya mucronata*) make travel through the woods extremely 136 slow and difficult. Foxes and rats, the land mammals that could have helped in the *Yahgan* dietary, were eschewed. Marine mam- 135 mals, fish, and other sea food were abundant in most localities. As 134 a result of the foregoing conditions, the *Yahgan* lived mostly on the water and along the shore line, penetrating inland very little.

131 **Territory.**—In the last century and probably from much earlier times the *Yahgan* regularly occupied the southern coast of Tierra del Fuego Island from about the eastern end of Beagle Channel to Brecknock Peninsula, and the islands south of this line to Cape Horn. But they evidently wandered more widely; *Yahgan* house sites and implements have been found as far north as Elizabeth Island in the Strait of Magellan (Bird, 1938, p. 260). Between Good Success Bay and the eastern end of Beagle Channel, there was considerable

[1] [These maps have not been processed; See Source Guide, category 11b, and maps, for similar information--ANALYST]

3: Lothrop E-5 (1924-1925) 1928
SMS Yahgan 5316

FLORA

137 The northern and eastern parts of Tierra del Fuego, as we have said, are open rolling plains covered with short grass and small shrubs. South of the Rio Fuego small clumps of trees surrounded by grass-lands are encountered. These clumps gradually increase in size and height until they finally form a solid forest broken only by *pantanos*, or peat-bogs, which are found in the valley bottoms and above the tree-line on the mountainsides. All the slopes of the Andes up to an elevation of 1400 feet or more, the south coast, and the nearby islands are covered by forest. And these forests

FIG. 2.—Fuegian forest. (From Alberto De Agostini, *I Miei Viaggi nella Terra del Fuoco.*)

are surprisingly dense, damp, luxuriant, and impenetrable (fig. 2). Fostered by snow-fed streams and mists, dampness encourages the growth of lichens, mosses, fungi, and orchids. Travel through virgin woods is impeded by fallen trunks, thick underbrush, and mud, but, owing to the relative absence of spiny growth, is not so disconcerting as in the tropics.

The trees and bushes of prime economic use to the Indians we list below. The various purposes to which they are put we shall discuss together with the manufacture of the articles used by the Indians. These trees and shrubs are:

J: Lothrop E-5 (1924-1925) 1928
SH6 Yahgan SH6

TABLE 1.—ECONOMICALLY IMPORTANT FLORA OF TIERRA DEL FUEGO

English	Spanish	Latin	Ona	Yahgan
beech	fáy	Nothofagus antarctica	chas[a]	kurtéran
beech	ñirre	Nothofagus betuloides	yáyus	ukuchi
beech	ñirre	Nothofagus pumilio	kawaltchálak	hámo
[illegible]	[illegible]	Maytenus magellanica	haíku [b]	alaku [b]
Winter's bark	canelo	Drimys wisteri	chósel	ukúshta
cypress	ciprés	Libocedrus tetragona	——	——
holly	chaura	Pernettya mucronata	yah[a]	gus
barberry	calafate	Berberis buxifolia	metq	úmash
barberry	calafate	Berberis ilicifolia	——	chétlia
[illegible]	——	Chiliotrichum amelloideum	g'óorrh	yéya
——	[illegible]	Escallonia coccinea	——	mú'gu
——	——	——	shfterbén	upúsh
grass	junco	Juncus magellanicus	tai	múpi
fungus	——	Cyttaria darwinii	yóken	awachiq

Although the Indians of Tierra del Fuego subsisted chiefly by hunting and fishing, they did not overlook the food value of various berries which grow on the island. Of these the most easily obtainable is the barberry, which flourishes everywhere. It is a variety different from the red-berried barberry (*Berberis vulgaris*) found in northern climes, for it looks and tastes not unlike our blueberry and makes an excellent stewed fruit. Then there is the red berry of an arbutus, similar to our cranberry in size and shape but rather tasteless; also what is locally called a "strawberry" (*Rubus geoides*) looks like a raspberry, tastes like a blend of peach and papaya, and grows half underground.

The Ona are said to collect grass-seeds (called *tai*) which they grind to a paste and eat, but this I did not see.

There are ten or more kinds of fungi on Tierra del Fuego, which, according to Rev. Thomas Bridges (1886), were eaten at various times of year by the Yahgan. Of these the most important both to the Ona and the Yahgan was a brilliant orange growth (*Cyttaria darwinii*) found on beech trees. When ripe, it is mucilaginous and rather insipid. The Yahgan still dry this fungus on rods and preserve it for winter use (fig. 3). Darwin remarks that since

[a] This tree is an evergreen.
[b] Word-borrowing is suggested by the similarity of Ona and Yahgan terms.

3: Lothrop E-5 (1924-1925) 1928
SH6 Yahgan SH6

137 the introduction of the potato to New Zealand, Tierra del Fuego is the only part of the world where cryptogamic plants form the 262 chief vegetal diet.

However, the Fuegian Indians failed to utilise many native food plants of value, such as wild celery, two kinds of cress, wild seapink, wild parsnip, scurvy grass, and mushrooms.

[251]

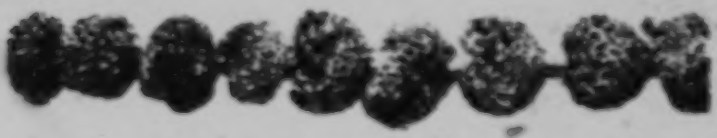

FIG. 3.—Fungi dried on a rod for winter use. Length, 8 in. (16/2279)

137 No description of the flora of Tierra del Fuego can omit mention of the gigantic kelp (*Fucus giganteus*) which almost everywhere fringes the coasts. Though the stems are not thick, they often exceed a hundred feet in length. Darwin[1] picturesquely writes: "I can only compare these great aquatic forests of the southern hemisphere with the terrestrial ones in the intertropical regions. Yet if the latter should be destroyed in any country, I do not believe that nearly so many species of animals would perish, as, under similar circumstances would happen with the kelp. Amidst the leaves of this plant numerous species of fish live, which nowhere else would find food or shelter; with their destruction the many cormorants, divers, and other fishing birds, the otters, seals, and porpoises, would soon perish also; and lastly the Fuegian savage, the miserable lord of this miserable land, would redouble his cannibal feast, decrease in numbers, and perhaps cease to exist." The kelp forms an excellent breakwater and mooring for canoes, but it is an impenetrable barrier to swimmers and has prevented many unfortunate occupants of overturned canoes from safely reaching the shore. Its appearance on the surface of the water may be seen in pl. III, top, and pl. XI, top.

FAUNA

136 From the Indian point of view what made Tierra del Fuego a suitable land for habitation was the edible fauna, which in turn

[1] 1838, p. 303.

1: Cooper E-4 (no date) 1946 5315 Tokosicha

Yahgan SH 6

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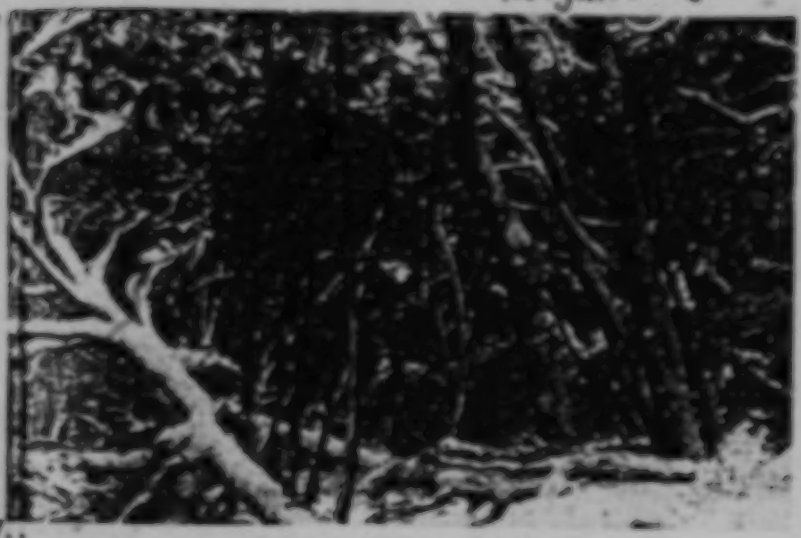

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[p. 160 C]